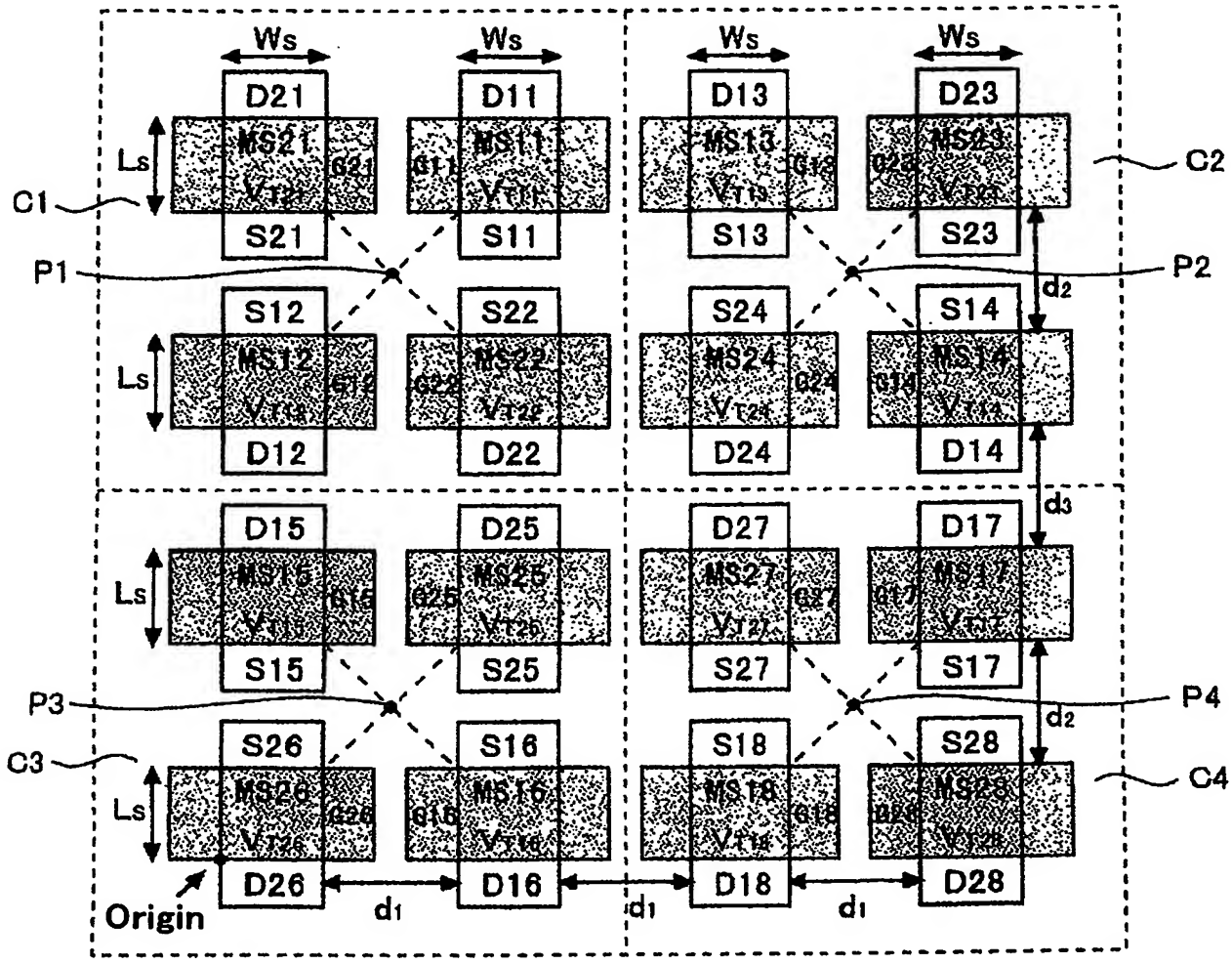
FIG.1


Ws
D21
MS21
G21
S21
D11
MS11
G11
S11
D13
MS13
G13
S13
D23
MS23
G23
S23
C2
C1
Ls
P1
P2
d2
S12
MS12
G12
D12
S22
MS22
G22
D22
S24
MS24
G24
D24
S14
MS14
G14
D14
d3
D15
MS15
G15
S15
D25
MS25
G25
S25
D27
MS27
G27
S27
D17
MS17
G17
S17
P3
P4
S26
MS26
G26
D26
S16
MS16
G16
D16
S18
MS18
G18
D18
S28
MS28
G28
D28
C3
C4
Origin
d1

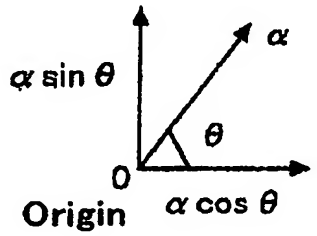

α
α sin θ
θ
0
Origin
α cos θ

FIG.2

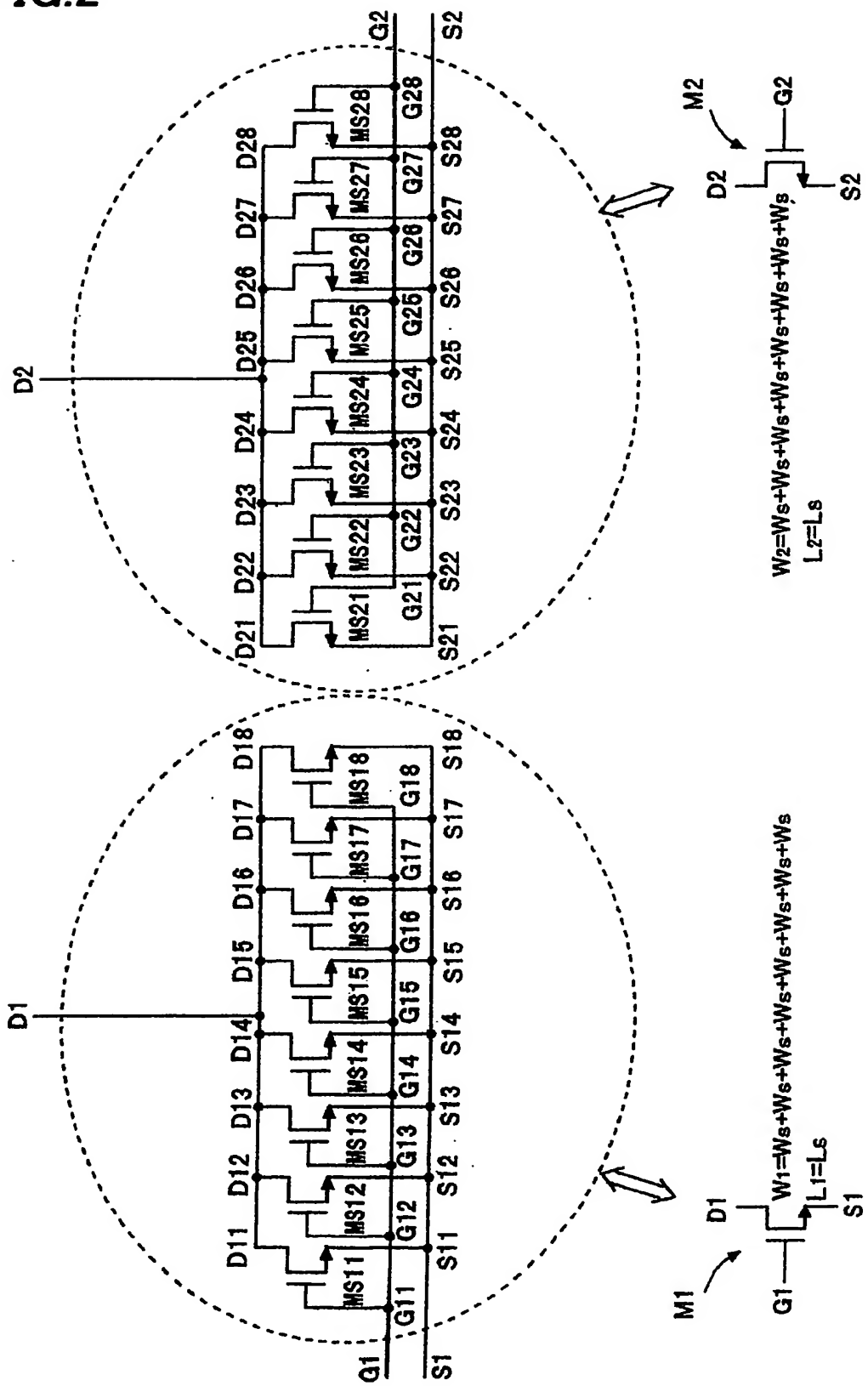

D1
D2
G1
G2
S1
S2
M1
M2
W1=Ws+Ws+Ws+Ws+Ws+Ws+Ws+Ws
L1=Ls
W2=Ws+Ws+Ws+Ws+Ws+Ws+Ws+Ws
L2=Ls

FIG.3

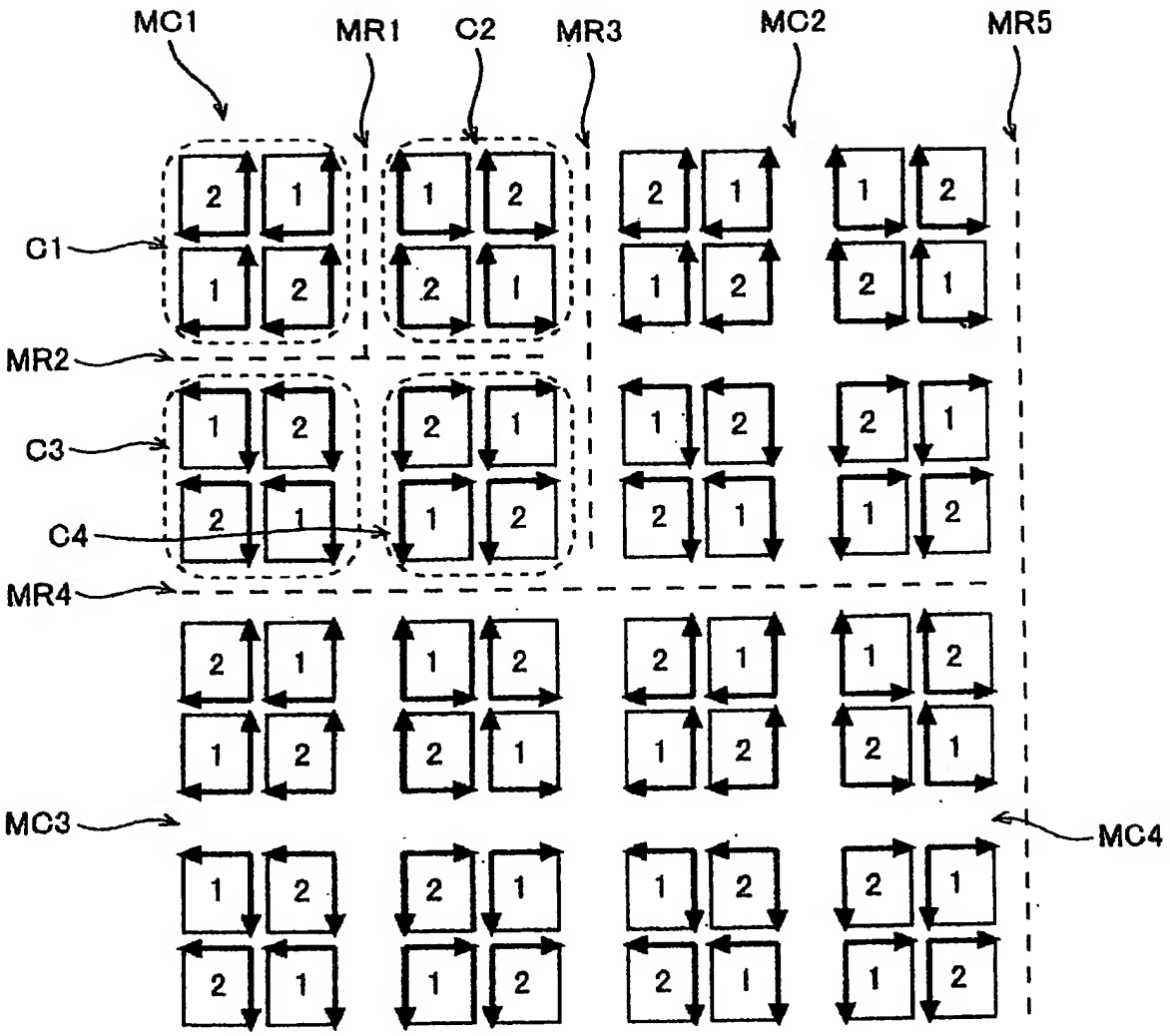


FIG.4

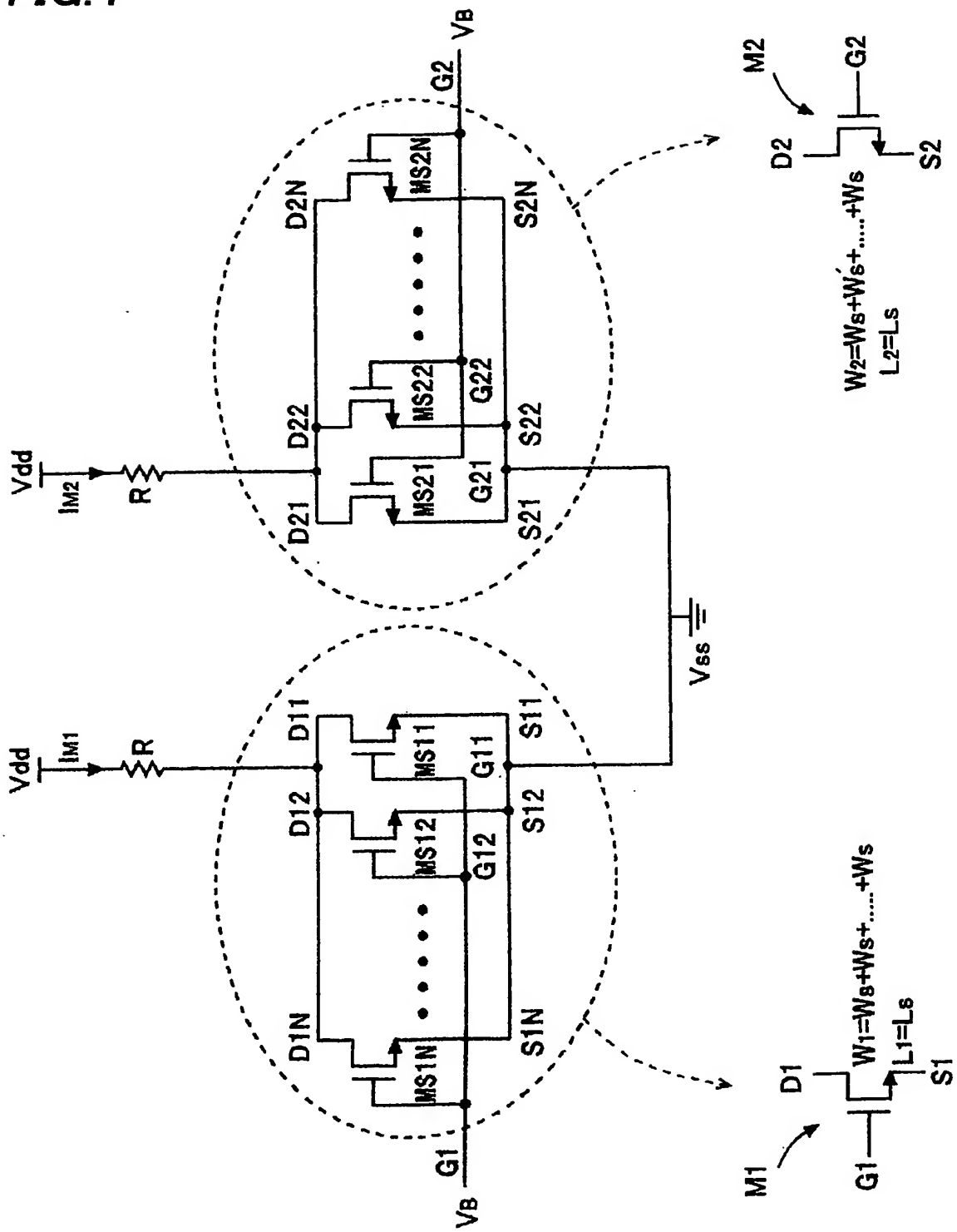

VB
G2
MS2N
D2N
S2N
MS22
G22
D22
S22
MS21
G21
D21
S21
Vdd
IM2
R
Vss
Vdd
IM1
R
D11
MS11
G11
S11
D12
MS12
G12
S12
D1N
MS1N
S1N
G1
VB
M2
G2
D2
S2
W2=Ws+Ws+.....+Ws
L2=Ls
M1
D1
W1=Ws+Ws+.....+Ws
L1=Ls
S1
G1

FIG.5

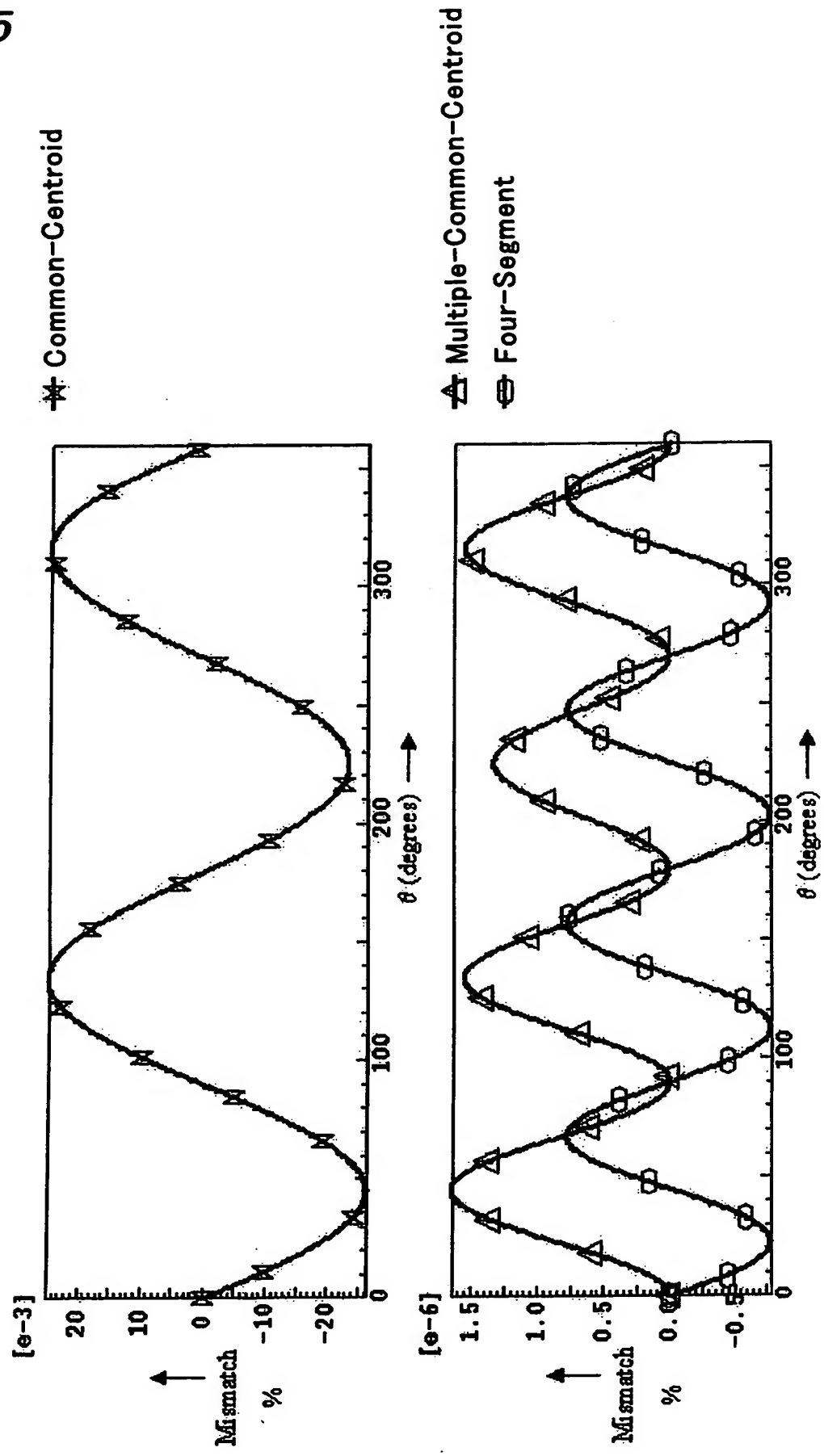

Common-Centroid
Multiple-Common-Centroid
Four-Segment
[e-3]
20
10
0
-10
-20
Mismatch
%
0
100
200
300
θ (degrees)
[e-6]
1.5
1.0
0.5
0.0
-0.5
Mismatch
%
0
100
200
300
θ (degrees)

FIG.6

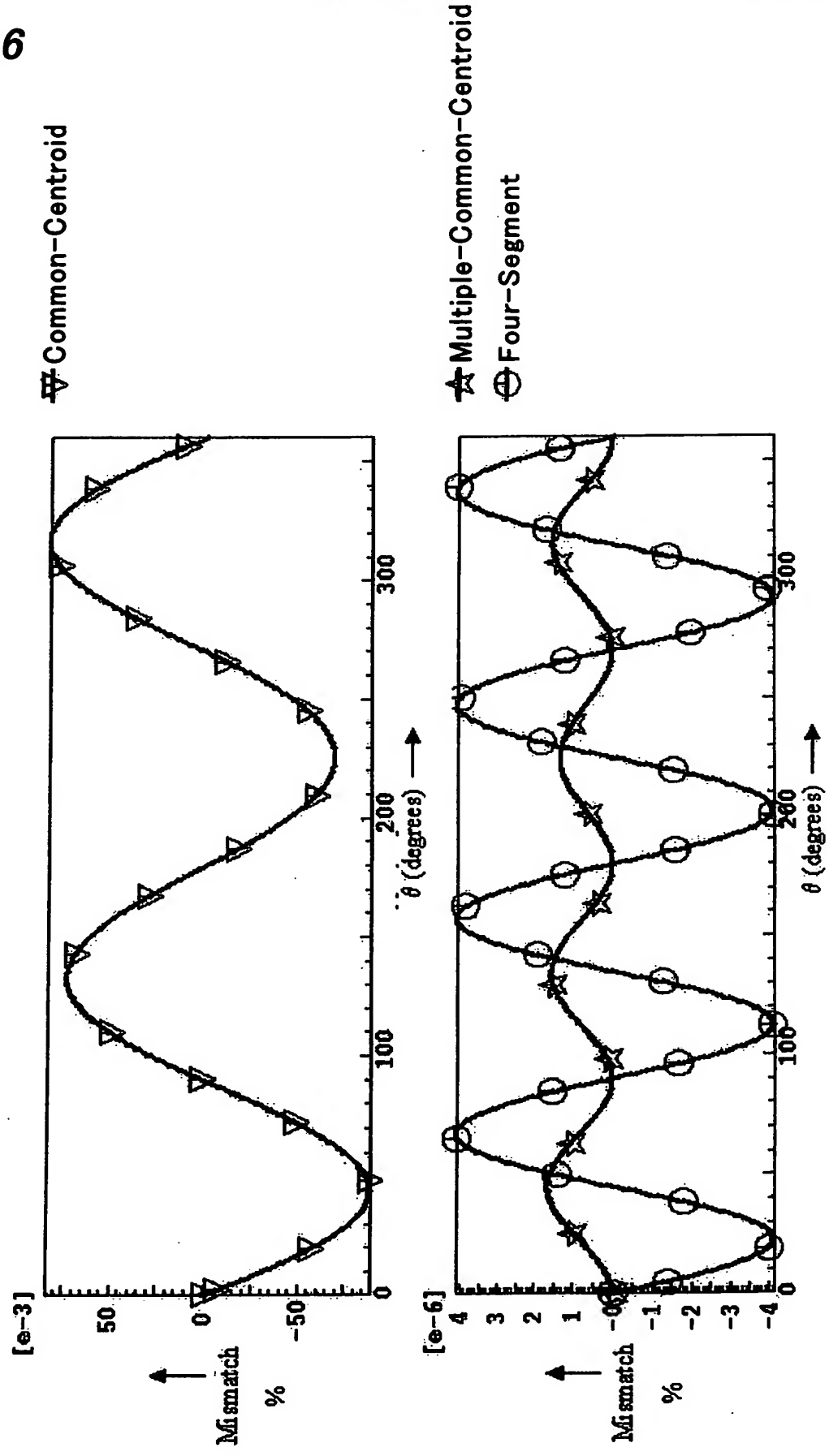

Common-Centroid
Multiple-Common-Centroid
Four-Segment
[e-3]
50
0
-50
Mismatch
%
0
100
200
300
θ (degrees)
[e-6]
4
3
2
1
0
-1
-2
-3
-4
Mismatch
%
0
100
200
300
θ (degrees)

FIG.7

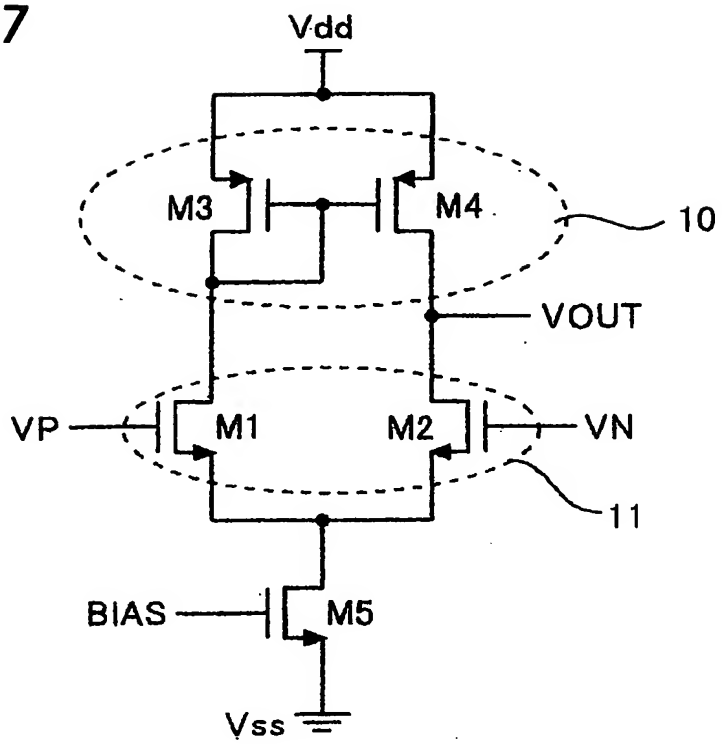

Vdd
M3
M4
10
VOUT
VP
M1
M2
VN
11
BIAS
M5
Vss

FIG.8

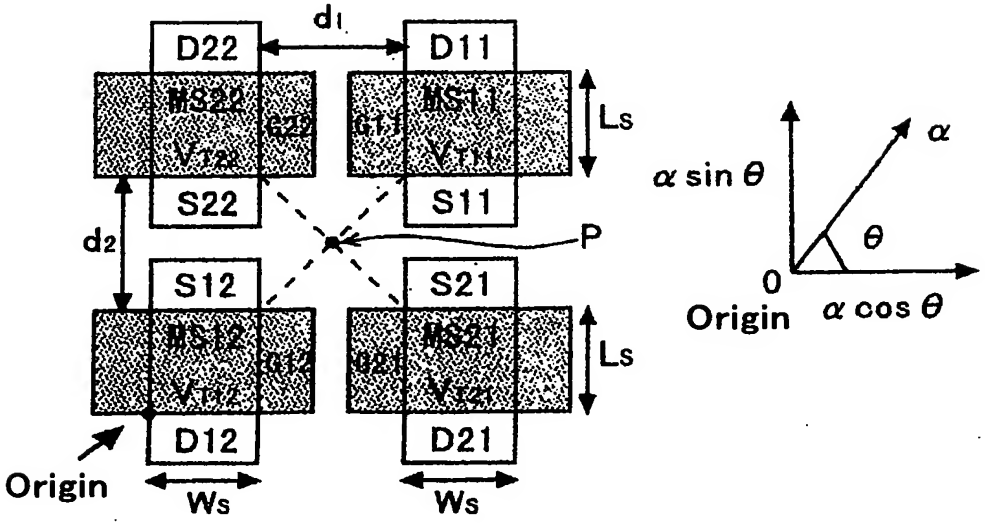

d1
D22
D11
MS22
MS11
Ls
S22
S11
d2
P
S12
S21
MS12
MS21
Ls
D12
D21
Origin
Ws
Ws
α
α sin θ
θ
0
Origin
α cos θ

FIG.9

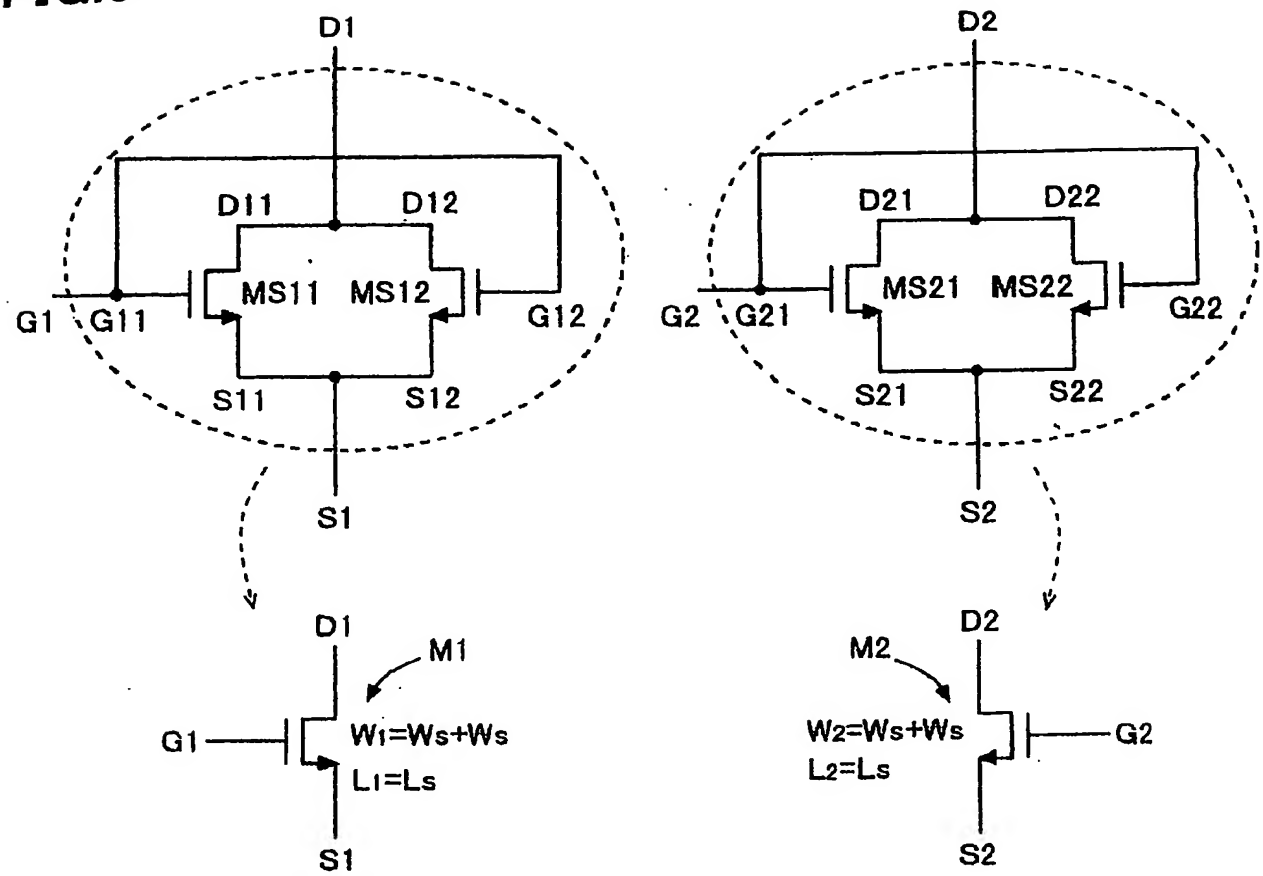

D1
D11
D12
MS11
MS12
G1
G11
G12
S11
S12
S1
D2
D21
D22
MS21
MS22
G2
G21
G22
S21
S22
S2
D1
M1
G1
W1=Ws+Ws
L1=Ls
S1
D2
M2
W2=Ws+Ws
L2=Ls
G2
S2

FIG.10

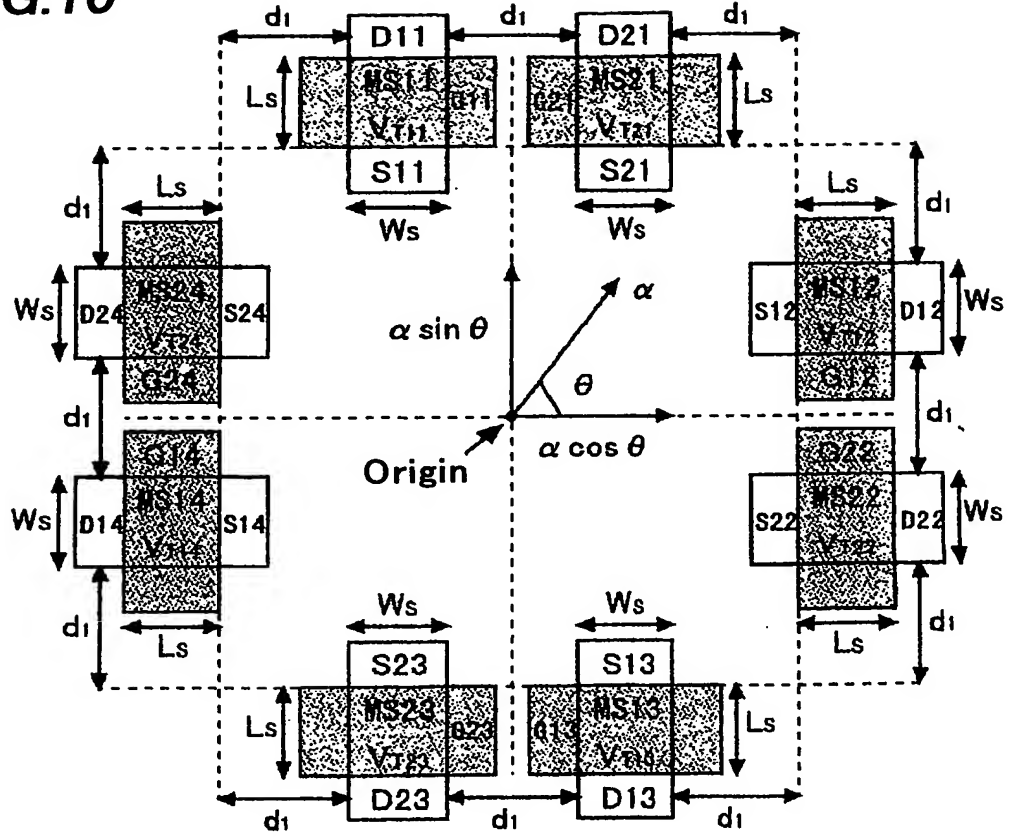
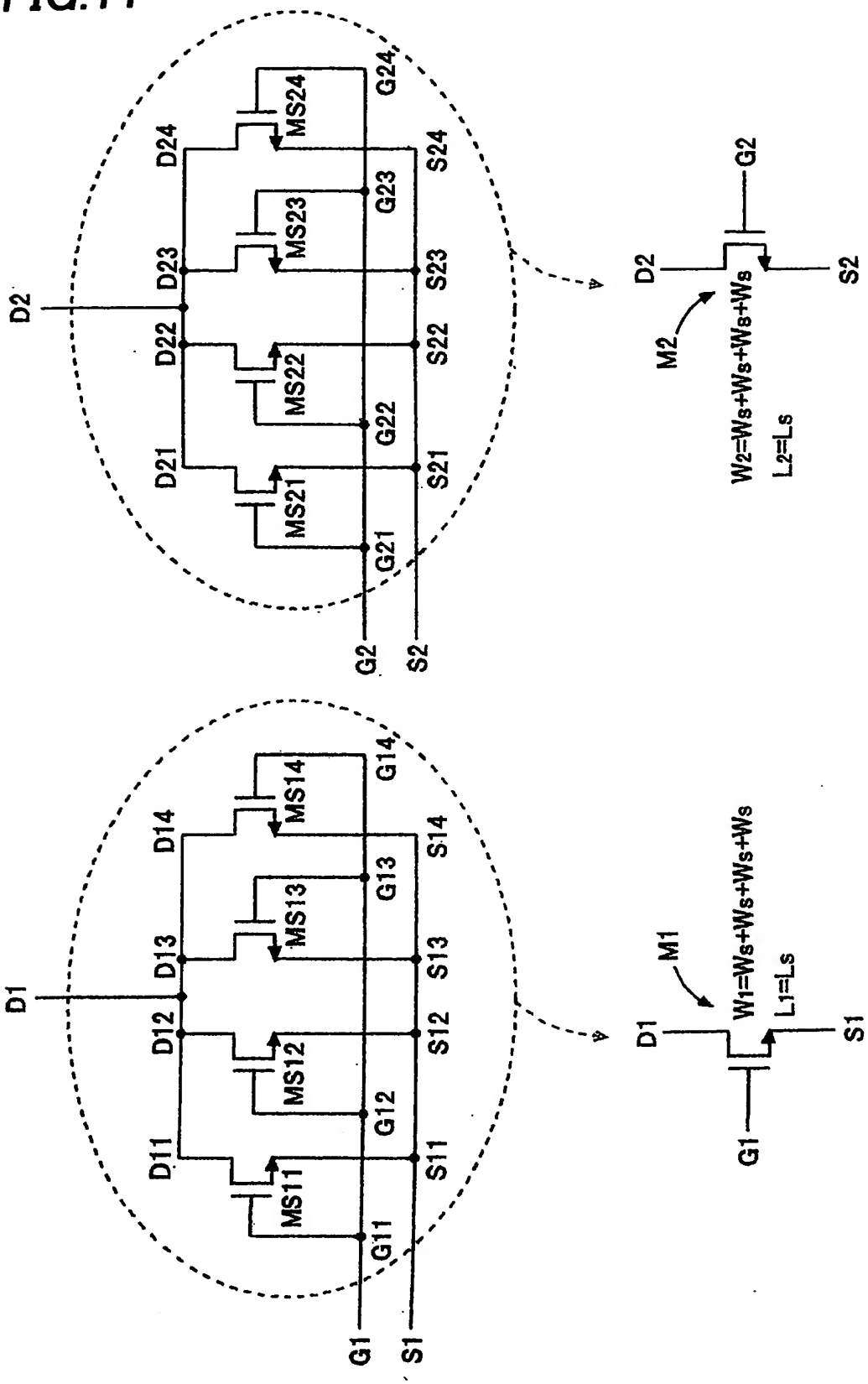

d1
D11
d1
D21
d1
Ls
MS11
G11
VT11
G21
MS21
VT21
Ls
S11
S21
Ws
Ws
Ls
Ls
d1
d1
Ws
D24
MS24
S24
VT24
G24
α
α sin θ
S12
MS12
D12
VT12
G12
Ws
θ
d1
d1
G14
MS14
VT14
Origin
α cos θ
G23
MS23
VT23
Ws
D14
S14
S22
MS22
D22
VT22
Ws
d1
d1
Ws
Ws
Ls
Ls
S23
S13
Ls
MS23
G23
G13
MS13
VT13
Ls
D23
D13
d1
d1
d1

FIG.11


D2
D24
D23
D22
D21
MS24
MS23
MS22
MS21
G24
G23
G22
G21
S24
S23
S22
S21
G2
S2
M2
W2=Ws+Ws+Ws+Ws+Ws
L2=Ls
D1
D14
D13
D12
D11
MS14
MS13
MS12
MS11
G14
G13
G12
G11
S14
S13
S12
S11
G1
S1
M1
W1=Ws+Ws+Ws+Ws+Ws
L1=Ls